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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,490	10/26/2001	Kobby Pick	10559-454001/P10771	3410

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EXAMINER	
PHU, PHUONG M	

ART UNIT	PAPER NUMBER
2631	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/053,490	PICK ET AL.	
	Examiner	Art Unit	
	Phuong Phu	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/8/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4-7, 16-18 and 21-23 a re rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "the metric correction factor". This limitation is lack of antecedent basis.

Claims 5, 16 and 21 recite the limitation "the log likelihood ratio". This limitation is lack of antecedent basis.

Claims, (if any) depended on above claim, are also rejected with the above reasons.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4, 8-15, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Yellin (6,047,035).

-Regarding to claim 1, see figure 1 and col. 1, line 36 to col. 3, line 2, Yellin discloses a method comprising:

step (15) of determining a normalization factor (AGC_GAIN) (see equation (1)); and

step (15) of applying the normalization factor to an output of a receiver (14) (see col. 1, lines 49-55).

-Regarding to claim 2, Yellin discloses that step (15) normalizes each symbol output from the receiver (see equation (1).

-Regarding to claim 3, Yellin discloses step (16) of comprising obtaining a metric correction factor (Q(Y~[n])) from the normalization factor (see col. 3, lines 23-35).

-Regarding to claim 4, Yellin discloses step (16) of providing the metric correction factor to a channel decoder (18) (see figure 1 and col. 3, lines 23-35)..

-Regarding to claim 8, Yellin discloses that the receiver employing a detection to obtain the output of the receiver (see col. 1, lines 64 to col. 2, line 5).

-Regarding to claim 9, see figure 1 and col. 1, line 36 to col. 3, line 2, Yellin discloses a system comprising:

a detector (14) which receives transmitted information and provides one or more output symbols based on the transmitted information;

a metric correction section (15, 16) which normalizes the one or more output symbols to obtain a metric; and

a channel decoder(18) which receives the metric from the metric correction section, the channel decoder utilizing the metric to decode the transmitted information.

-Regarding to claims 10, 11 and 14, in Yellin, the detector is inherent a detector.

-Regarding to claim 12, Yellin discloses that the metric is a ratio (see equation 3).

-Regarding to claim 13, Yellin discloses that the metric correction section determines a normalization factor to apply to the output symbols of the detector (see figure 1).

-Regarding to claim 15, Yellin discloses that the metric correction section normalizes each output symbol on a symbol by symbol basis (see equation (1)).

-Regarding to claim 19, see figure 1 and col. 1, line 36 to col. 3, line 2, Yellin discloses a method comprising:

step (15) of receiving one or more output signals from a detector;

step (15) of determining a normalization factor for each of the one or more output signals;

step (15) of multiplying each of the one or more output signals by the corresponding normalization factor to obtain a metric correction; and

step (15, 16) of providing the metric correction for each symbol to a channel decoder (18).

-Regarding to claim 20, Yellin discloses that the channel decoder uses the metric correction (see figure 1).

5. Claims 1-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Gonzalez et al (2002/0181624).

-Regarding to claim 1, see figure 2 and sections [0021-0048], Gonzalez et al discloses a method comprising:

step (16) of determining a normalization factor (outputted from (14)); and

step (16) of applying the normalization factor to an output (y) of a receiver (10).

-Regarding to claim 2, Gonzalez et al discloses that step (16) normalizes each symbol output from the receiver (see figure 2).

-Regarding to claim 3, Gonzalez et al discloses step (18) of comprising obtaining a metric correction factor (outputted from (18)) from the normalization factor (see figure 2).

-Regarding to claim 4, Gonzalez et al discloses step (18) of providing the metric correction factor to a channel decoder (20) (see figure 2 and section [0048]).

-Regarding to claim 8, Gonzalez et al discloses that the receiver employing a detection (demodulator) to obtain the output of the receiver (see figure 2).

-Regarding to claim 9, see figure 2 and sections [0021-0048], Gonzalez et al discloses a system comprising:

a detector (demodulator, 10) which receives transmitted information and provides one or more output symbols based on the transmitted information;

a metric correction section (12, 14, 16, 18) which normalizes the one or more output symbols to obtain a metric (outputted from (12)); and

a channel decoder(18, 20) which receives the metric from the metric correction section, the channel decoder utilizing the metric to decode the transmitted information (see figure 2 and section [0048]).

-Regarding to claims 10, 11 and 14, in Gonzalez et al, the detector is inherent a detector.

-Regarding to claim 12, Gonzalez et al discloses that the metric is a ratio (see equation 6).

-Regarding to claim 13, Gonzalez et al discloses that the metric correction section comprises means (14, 16) which determines a normalization factor (outputted from (14) to apply to the output symbols of the detector (see figure 2).

-Regarding to claim 15, Gonzalez et al discloses that the metric correction section normalizes each output symbol on a symbol by symbol basis (see figure 2).

-Regarding to claim 19, see figure 2 and sections [0021-0048], Gonzalez et al discloses a method comprising:

step (10) of receiving one or more output signals from a detector (demodulator);

step (12, 14) of determining a normalization factor (outputted from (14) for each of the one or more output signals;

step (16) of multiplying each of the one or more output signals by the corresponding normalization factor to obtain a metric correction; and

step (18) of providing the metric correction for each symbol to a channel decoder (20).

-Regarding to claim 20, Gonzalez et al discloses that the channel decoder uses the metric correction (see figure 2).

-Regarding to claims 5, 16 and 21, Gonzalez et al discloses step/means (12) determining an equivalent LLR as claimed (see section [0030] and equation (6)).

-Regarding to claims 6, 7, 17, 18, 22 and 23, Gonzalez et al discloses step/means of determining a total noise variance (σ^2) (see section [0046]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (6:30-2:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PHUONG PHU
PRIMARY EXAMINER

Phuong Phu
Primary Examiner
Art Unit 2631

Phuong Phu
03/10/05